

DR 2800™ PORTABLE SPECTROPHOTOMETER

Applications

- Drinking Water
- Wastewater
- Power
- Industrial Water
- Environmental Water
- Food and Beverage



Versatile, easy to use and portable.

Hach's most popular portable, known for its versatility and ease of use. Take your analysis where you need it.

More than 240 Analytical Methods and Chemistries

The Hach DR 2800 Portable Spectrophotometer can be used for more than 240 analytical methods, including more than more than 30 TNTplus reagent vial tests that provide innovative bar code labeling for reliable, automatic method detection. The DR 2800 can store up to 50 user programs and 500 data points, including sample and operator ID.

Small Footprint, Large Touch Screen

The DR 2800 is only 8.7 by 13.1 inches, allowing it to fit into any lab while remaining completely portable. The easy-to-use touch screen is intuitive to operate.

Time-Saving Automatic Method Detection and Superior Accuracy

TNTplus reagent vials for selected analytical methods provide automatic method detection, which helps eliminate human error, saving time and money. While rotating the TNT vial,

the instrument takes 10 absorbance measurements in less than 5 seconds. The average value is used to calculate the results, providing built-in accuracy. Reagent blanks are unnecessary.

Update the Instrument or Transfer Data Easily

Update DR 2800 spectrophotometer systems and transfer measurement data with a USB memory stick. Two USB ports on the instrument allow it to connect to a computer and to a memory device or hand-held bar code scanner at the same time.

Accommodates Multiple Cell Sizes and Sample Delivery Methods

The DR 2800 spectrophotometer holds eight types of Hach cells. The optional Pour-Thru™ cell kit is ideal for rapid liquid methods when high throughput of analysis is needed.

Specifications*

Operating Mode	Transmittance (%), Absorbance, and Concentration
Source Lamp	Tungsten
Pre-Installed Programs	More than 240
Available User Programs	50
Data Storage	500 points
Export Capability	.csv (comma-separated values) file format
Wavelength Range	340 to 900 nm
Wavelength Accuracy	±1.5 nm
Wavelength Resolution	1 nm
Spectral Bandwidth	5 nm
Wavelength Calibration	Internal, automatic at power-on, visual feedback
Wavelength Selection	Automatic: based on selected program Automatic: based on barcode printed on TNTplus™ reagent vials Manual: in all modes except stored programs
Enclosure Rating	IP 41
Operating Temperature	10 to 40°C (50 to 104°F)
Operating Humidity	80% relative humidity, non-condensing, maximum
Storage Requirements	Temperature: -25 to 60°C (-13 to 140°F) Humidity: 80% relative humidity, non-condensing, maximum
Power Requirements	Line: 100 to 240 V; 47/63 Hz; automatic changeover Battery: Lithium-Ion 11V/4400mAh

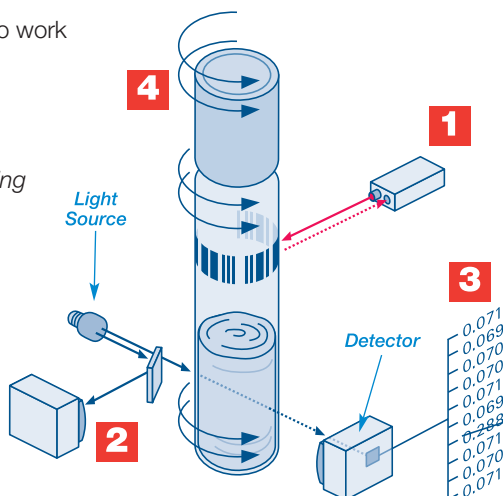
Interface	USB 1.1 (10 ft. (3 m) cable, maximum)
Languages	English, French, German, Italian, Spanish, Portuguese, Chinese, Japanese, and Korean (please contact your Hach representative for availability of additional languages)
Connections	1 x USB type B (PC) 1 x USB type A (USB storage device, printer, keyboard)
Sample Cell Compatibility	1-in. square; 1-in. round; 1 cm square; 1x5 cm; 13 mm round; 16 mm round; Multipath 1-in./1 cm; Pour-Thru™ with 1-in./1 cm path lengths
Accessories	Included: 1-in. square matched glass sample cells; Cell adapters for 1-in. round/ AccuVac cells, 1x1 cm cells, and multi-path 1-in./1 cm cells; Universal power supply, 100 to 240V, 47/63Hz, with plug adapters for EU, GB, US, China; Protective cover for storing adapters; Dust cover Optional: Hach Pour-Thru cell; External USB keyboard; Rechargeable lithium-ion battery; Carrying Case; DataTrans™ Software
Dimensions	220 x 137 x 332 mm (8.7 x 5.4 x 13.1 in.) width, height, depth
Weight	Without battery: 4.06 kg (8.95 lbs.) With battery: 4.38 kg (9.65 lbs.)

*Subject to change without notice.

Principle of Operation

Hach's TNTplus chemistries and spectrophotometers are made to work seamlessly with each other.

- Many of the tests are EPA compliant.
- Over 35 tests available including these popular EPA Approved Parameters:
 - Ammonia
 - COD
 - Chlorine
 - Chromium
 - Iron
 - Nitrate
 - Nitrite
 - Nitrogen
 - Phosphorus
 - Sulfate



How TNTplus Works

- 1 Barcode Recognition**
Simply drop in the vial and get results immediately with automatic method detection.
- 2 Reference Detector**
Monitors and compensates for optical fluctuations.
- 3 10X Measurement and Outlier Elimination**
Dirty, scratched, or flawed glassware, including fingerprints, is no longer an issue—instrument averages 10 readings and rejects outliers.
- 4 Self-Contained Packaging—Reagents Inside Sealed Cap**
Reduces exposure to chemicals—no need to open pillows or clean glassware.

See our TNTplus video at: www.hach.com/tntplus

Available Tests

The following table lists available tests and overall ranges for the Hach DR 2800 Portable Spectrophotometer. The ranges may represent more than one available test for the instrument. Consult your Hach representative, Customer Service, the Hach Master Catalog, or the Hach web site at www.hach.com for complete details of all available tests for this instrument.

Parameter	Range	TNTplus Test	Parameter	Range	TNTplus Test
Alachlor	0.1 to 0.5 ppb, threshold		Lead	3 µg/L to 2.0 mg/L	•
Alkalinity, Total	25 to 400 mg/L	•	Manganese	0.006 to 20.0 mg/L	
Aluminum	0.002 to 0.800 mg/L	•	Mercury	0.1 to 2.5 µg/L	
Ammonia, Nitrogen	0.015 to 50.0 mg/L	•	Methylethylketoxime (MEKO)	15 to 1000 µg/L	
Arsenic	0.020 to 0.200 mg/L		Molybdenum, Molybdate	0.02 to 40.0 mg/L	
Atrazine	0.5 to 3.0 ppb, threshold		Nickel	0.006 to 6.0 mg/L	•
Barium	2 to 100 mg/L		Nitrate, Nitrogen	0.01 to 35 mg/L	•
Benzotriazole	1.0 to 16.0 mg/L		Nitrite, Nitrogen	0.002 to 250 mg/L	•
Boron	0.2 to 14.0 mg/L		Nitrogen, Simplified Total Kjeldahl	0 to 16 mg/L	•
Bromine	0.05 to 4.50 mg/L		Nitrogen, Total	0.5 to 150 mg/L	•
Cadmium	.7 µg/L to 0.30 mg/L	•	Nitrogen, Total Inorganic	0.2 to 25.0 mg/L	
Carbohydrazide	5 to 600 µg/L		Nitrogen, Total Kjeldahl	1 to 150 mg/L	
Chloramine, Mono	0.04 to 10.0 mg/L		Ozone	0.01 to 1.50 mg/L	
Chloride	0.1 to 25.0 mg/L		PCB (Polychlorinated Biphenyls)	1 to 50 ppm, threshold	
Chlorine Dioxide	0.01 to 1000 mg/L		Phenols	0.002 to 0.200 mg/L	
Chlorine, Free	0.02 to 10.0 mg/L	•	Phosphonates	0.02 to 125.0 mg/L	
Chlorine, Total	2 µg/L to 10.0 mg/L	•	Phosphorus, Acid Hydrolyzable	0.06 to 100.0 mg/L	
Chromium, Hexavalent	0.010 to 1.00 mg/L	•	Phosphorus, Reactive (Orthophosphate)	19 µg/L to 100.0 mg/L	•
Chromium, Total	0.01 to 0.70 mg/L	•	Phosphorus, Total	0.06 to 100.0 mg/L	•
Cobalt	0.01 to 2.00 mg/L		Potassium	0.1 to 7.0 mg/L	
Color	3 to 500 units		Quaternary Ammonium Compounds	0.2 to 5.0 mg/L	
COD (Chemical Oxygen Demand)	0.7 to 15,000 mg/L	•	Selenium	0.01 to 1.00 mg/L	
Copper	1 µg/L to 8.0 mg/L	•	Silica	3 µg/L to 100 mg/L	
Cyanide	0.002 to 0.240 mg/L		Silver	0.005 to 0.700 mg/L	
Cyanuric Acid	5 to 50 mg/L		Sulfate	2 to 900 mg/L	•
DEHA (Diethylhydroxylamine)	3 to 450 µg/L		Sulfide	5 to 800 µg/L	
Dissolved Oxygen	6 µg/L to 40 mg/L		Surfactants, Anionic	0.002 to 0.275 mg/L	
Erythorbic Acid (Isoascorbic acid)	13 to 1500 µg/L		Suspended Solids	5 to 750 mg/L	
Fluoride	0.02 to 2.00 mg/L		Tannin and Lignin	0.1 to 9.0 mg/L	
Formaldehyde	3 to 500 µg/L		TOC (Total Organic Carbon)	0.3 to 700 mg/L	
Hardness, Total (Calcium and Magnesium as CaCO₃)	4 µg/L to 4.00 mg/L		Tolyltriazole	1.0 to 20.0 mg/L	
Hydrazine	4 to 600 µg/L		Toxicity	0 to 100% Inhibition	
Hydroquinone	9 to 1000 µg/L		TTHM (Trihalomethanes, Total)	10 to 600 µg/L	
Iodine	0.07 to 7.00 mg/L		TPH (Total Petroleum Hydrocarbons)	2 to 200 ppm, threshold	
Iron, Ferrous	0.02 to 3.00 mg/L		Volatile Acids	27 to 2800 mg/L	•
Iron, Total	0.009 to 6.0 mg/L	•	Zinc	0.01 to 3.00 mg/L	

Ordering Information

DR2800-01B1 DR 2800 Portable Spectrophotometer; includes printed instrument manual, procedure manual on CD-ROM, universal power supply with exchangeable plug adapters for EU, GB, US, and China, dust cover, and 1-in. square matched glass sample cells. Includes a Lithium-ion Battery Pack

Replacement Parts

LZV610 Power Supply; 100 to 240V, 47 to 63 Hz, international (exchangeable plug adapters for EU, GB, US, and China)

LZV583 Adapter A; 1 cm square cells

LZV585 Adapter B; multi-path cell, 1-in./1 cm, or Pour-Thru cell

LZV584 Adapter C; 1-in. round cells

LZV565 Replacement Bulb; 6V, 10W

LZV642 Protective Cover for storing adapters

LZV646 Light Shield

HYH019 Dust Cover



Optional Accessories

5940400 Pour-Thru Cell Kit; includes 1-in. Pour-Thru cell, holder, funnel, and tubing

LZV537 Certified Test Filter Set

2960100 Citizen PD-24 Printer Package

LZV582 USB Keyboard

LZV566 USB Hand-held Barcode Scanner

LZV551 Battery Pack (lithium-ion 11 V/4400 mAh)

5839700 DR 2800 Carrying Case

LZY274 DataTrans™ Software

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Hach Company reserves the right to alter specifications to equipment at any time.

